

Redesign of Vocational Education in Indonesia as a Discourse in the Future

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Abstract

The purpose of the article is to give discourses on redesign in the area of Vocational Education and Training (VET) in Indonesia to prepare graduates who will play a role in the global era. Professional education is a form of education, where people are equipped with practical skills that will enable them to participate in careers that include manual or practical skills. School-to-work represents a significant development of policies for employment training. Development of technology and professional education shall consider the relationship between multiple technocultural factors. These four factors: (1) labor (industrial relations), (2) changes in technology (innovation), (3) organization of work (the work), and (4) formation of competences (skills). Rapid changes in the economic, social and technology demand of society need to develop knowledge and skills on an ongoing basis. So, they can live and work in creating a society. Education and training contribute to personal development, increase productivity and incomes in the workplace, and encourage participations by all in the economic and social life. Secondary school vocational and professional in Indonesia is an integral part of the economic sectors that have contributed to the growth of national economy. So it is necessary to develop the quantity and quality. The quality of vocational college/professional work will reflect the quality of Indonesian worker that must be built to increase the competitive advantages of human resources in Indonesia. Responding to public demand for high-level expertise and skills, it will be more effective to integrate general and vocational education by providing basic knowledge enrichment in vocational education / vocational school to strengthen more and more the power of thought to the graduates of vocational education in Indonesia. For the existing systems we can prepare the discourse as follows: the implementation of vocational education and vocational mainly carried out in eight semesters. First four semesters is for placing the basic knowledge and skills. Semester 5-6 are for placing them into majors and for the implementation of the UAS and UNAS. Semester 7-8 are to enrich skills in industry/field and OJT, and tests of competence. Annexes redesign must be a way to prepare for postgraduate vocational education/training in Indonesia through curriculum development, teaching, teacher evaluation and partnership working world.

Keywords : redesign, vocational education

1. INTRODUCTION

Vocational education is a form of education in which people are provided with practical skills which will allow them to engage in careers which involve manual or practical abilities. Some examples of careers for which people can receive vocational education training include: aviation mechanics, hotel management, hairstyling, plumbing, air conditioner installation, and cab driving. Vocational education is also known as Vocational Education and Training (VET), or “[technical school](#)”⁽¹⁾. *School-to-Work opportunity* is a very significant policy development in preparing labor ⁽²⁾. The key element of this policy is the integration of vocational and academic education programs for all students. School-to-work program includes an extensive program in secondary schools, especially for vocational schools. A popular program is a partnership education (apprenticeships and school-based enterprises). VET innovation should focus on the inclusion of

work-oriented education, by defining quality criteria for a work-oriented educational place, and designing a curriculum which is integrated with the world of work.

The development of the vocational and technological education considers the relationship between several factors that are technocultural. They are (1) labor (industrial relations), (2) changes in technology (innovation), (3) organization of work (the work), and (4) formation of competences (skills). Technological changes will reciprocally influence the work organization, meaning that any changes in technology will impact on the structure of the existing jobs in the world of work. On the other hand, the technological change will also alter the formation of competencies and skills needed by industry. The change of the competency and work organization clearly needs to be anticipated by the educational institution to upgrade each program according to the needs of industry and technology changes. All the innovation and change processes will be accommodated if the relationship between

institutions are well-established (the relationship between the industry and the educational institutions). Basically the source of the changes can occur in each factor and will be refracted on other factors. The important message from the description of the relationship of these various factors is that the technology education curriculum or vocational education, in general, is very dynamic and has a high sensitivity to changes. Therefore, the institution must have an interconnection such as a magnetic field with the world of industry. Awareness of the important role of technical and vocational education in the economy in Southeast Asia has been developed ⁽³⁾. Similarly, it will happen when the depth of the meaning of the new thinking has emerged in the Organization for Economic Cooperation and Development Countries (OECD) and Latin America about the role of technical secondary education and the higher one for economic support and knowledge. Indication of resurgence of interest in TVSD is the emphasis on the goal of Education for All Monitoring (PUS) Global Report (GMR) 2010. If it is examined, there is always a connection between the industrial and economic development on the one hand and labor on the other hand, while they are always related to education and training.

2. DISCUSSION

2.1 Reorganization of the World of Work

The use of high-technology equipment in the industry and the offices change patterns of work and qualifications of labor, from the use of hand-tools to the use of head-tools. For example the increase of the need of labor / technicians for high-technology equipments, and also the decrease of administrative and the manufacturing industry staffs.

2.2 The Change and The Development of Vocational Education

2.2.1 A globally fundamental change in technology, economy, and the world of work

The development of the world to a global direction will lead to a paradoxical situation. On one side the opportunity is widely opened; on the other side the competition is getting tighter. In the context of the competitiveness, it brings together the nation's ability to maintain her existence in the global arena. Therefore, in the global context, a nation is demanded to have her competitiveness as well as her durability to take part and triumphed.

The population growth of countries differs from one another. It results in the changing of the needs of technology, economy, and the world of work because of the condition of the country itself or due to conditions of other countries because of the interconnections. A typically hard technology are likely to lead to a typically soft one in the 21st century. Hardware technology that reaches the most complex level management can be controlled by human using software technology. Jin (2010) emphasizes an understanding on the human aspect as a very needed thing to counterbalance the acceleration in the pace of technology. Rapid changes in economic, social, and technology aspects require the whole community to develop knowledge and skills continuously, so that it can live and work well in a knowledgeable society. Education and training contribute to one's personal development, increase productivity and incomes in the workplace, as well as facilitate the participation of everyone in the economic and social life (King & Palmer, 2010).

2.2.2 Competitiveness challenges of human resources (HR) Indonesia

The quality of human resources will affect the economy. Meanwhile, economy-based knowledge needs a well-planned knowledge management and therefore the relationship between the world of work and vocational education should be increased.

The focus on the generic skills is replaced by the core skills that can be applied in the context of diverse organizations and work (Payne, 2004). OECD countries have tried to define the core competencies and skills that are often called "21st century skills" or "higher order skills" (Grubb, 2006). Besides the characterization of generic versus specific skills, there is an increased focus on hard and soft skills. Employers want that workers have skills other than hard skills or soft ones. Hard skills refer to the technical and analytical competence as well as the know-how that enables workers to perform the mechanical aspects of the job. The other way, their soft skill is "the capability for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life."

Author, Levy, & Murnane (2001) explains further how the progress of technology may affect the types of skills demanded by the labor market. They show how computerization is associated with a decrease in demand for manual labor that is relatively routine,

cognitive tasks, and the increase of the relative demand for non-routine cognitive tasks.

In addition, the framework of the key competencies DeSeCo OECD (CHERRIES, 2010), provides another method of identification and classification of key competencies, that are divided into three categories: (a) using an interactive form, (b) interacting in a heterogeneous group, and (c) acting independently. First, using the interactive tools refers to the ability to use various physical means and social culture activities (technology and language), to interact with the environment. The second and third; the importance of life skills or soft skills. Someone not only must have the ability to interact and to work effectively with other heterogeneous groups, but also can take responsibility for their own lives and act independently (Leney, 2008; OECD, 2005). The attainment of the secondary education is considered as a minimum requirement to obtain a satisfactory position in the labor market for OECD countries. On average, the achievement of the secondary education is associated with a reduction in unemployment (unemployment among the students is not a percentage of age group) between 20-24 years of 7.3% and 7.1% for 25-29 years (OECD, 2007). Global competence can be defined as the knowledge and skills that help people to understand the world they live in, skills in integrating cross-disciplinary studies to understand the activities and the global arena, and to create alternatives to interact with the global world. The global competence is an attitude and ethics adjustment that enables us to interact with various people from different geographical places in a comfortable, respectful, and productive way.

2.3 Educational Redesign on Vocational Field in Indonesia

Although there are various views about what is meant by "global expertise" that is closely related to the language and the provision of ICT for basic skills to work in a global economy, there is another evidence which recognizes that it requires the promotion of learning about globalization, sustainable development, cultural and social understanding, economy, and commitment. Vocational High School in Indonesia is an integral part of the economic sectors that contributed to the growth of national economy, so that it needs to develop the quantity and quality. The quality of Vocational School (SMK) will reflect the quality of Indonesian labors that need to be set up to enhance

the competitive excellence of the human resources of Indonesia. Thus, SMK plays an important role in suppressing the number of unemployed persons in Indonesia. To that end, students are necessary to be able to work in a particular field. Further described in the Government Regulation No. 19 of 2005 on National Education Standards (SNP), the objective of vocational secondary education (SMK) is that the vocational education (SMK) prioritizes in preparing students to enter the field of work and professional attitude. SMK according to Law No. 20 of 2003 on National Education System is defined as follows. Vocational education is an education that prepares human resources and its equipment in order to align with the economic growth of Indonesia (Directorate Restra PSMK years 2010-2014).

Advanced technology has brought revolutionary changes in all areas of life. Its influence on the industry and the economy has been considered as a proportion of the crisis. The emphasis has shifted the value of 'material' for 'information' and 'time'. The strength of muscle and the power of the engine are replaced by 'brain power' and 'thinking skills'. The knowledge about intensive and multi-skilled workers is highly needed. To address the rapid development in the life of the current system, we need a step of a development for vocational field based on the developments in the community.

Based on the study which has been done before, we can make a kind of redesign discourse in the vocational field that is expected to narrow the gap between current vocational educations in Indonesia and the existing world of work, in which case its development is very dynamic at present and future. The dynamics of the knowledge economy, followed by market developments, advances in science and technology, and globalization as well increase the internationalization, a call for the new face of skills and competencies. Skills and abilities are not only highly desirable, but it is also much needed to meet the reality of the changing demands of economic and labor market. Responding to the demand for general skills and higher level skills, it will be more effective to integrate general and vocational education by giving the students an enrichment of basic knowledge in vocational education to strengthen more and more the power of thought for the graduates of vocational education in Indonesia. For an existing system, we can prepare a discourse as follows.

Table 1. Redesign of vocational education.

Current vocational education	Redesign
Implementation for 3	• 4 first semesters for

years (5 semesters in school and 1 semester in the field)	<p>planting the basic skills.</p> <ul style="list-style-type: none"> • Semester 5-6 as the concentration semester related to the students' vocational interests (using the block system) in the implementation of learning. • School examination and UAN conducted • One semester for field study (PKL) based on the students' concentration/ interest • Semester end of On – the-Job Training (OJT) in industry • Exam School / competency test conducted
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Through the strengthening of the basic knowledge, it is expected that skills in thinking and decision-making as well as the graduates' autonomous level will be more powerful. Thus, it will facilitate the mastery of productivity competencies that are of interest; besides the ability to communicate is getting better. Here is a way of preparing graduates of vocational education in Indonesia through the curriculum development, teaching-learning process, educators, evaluation, and cooperation the world of work.

2.3.1 Curriculum Development

Retrainability is the ability that is to be emphasized. It is necessary to do to adjust to the rapid growth of innovation and change from time to time. Providing broad-based education programs for career development should also not be overlooked.

Priority in planning the curriculum includes: (a) preparing students to have a multi-skill: *high order cognitive skills, practical skills, programming skills, decision-making skills, communication and interpersonal skills*, (b) flexible: entry, duration, sequence of content, place of study, operation mode, graduate-students-have-the-ability-to-be-retrained centered; (c) giving the content of entrepreneurship; (d) credits that can be transferred: because the skills and knowledge can be obtained not only in schools but also in the workplaces or through the internet; and (e) continuing education. Meanwhile, the four

elements of curriculum and instructional strategies, including: (a) broad-based academic to raise the standards of science, (b) basic training and specialized training, (c) industry skill improvement, and (d) training modules that contain a mix of theory and practices that need to be prepared to support its appropriateness.

2.3.2 Teaching Learning Process (PBM)

Teaching learning process or PBM obliges the existence of a flexible curriculum and an interactive instructional. The development which is associated with the PBM includes: (a) tasks that facilitate the student learning, resource-based learning, discovery-oriented experiments, (b) integrated learning, performance-oriented tests, (c) CAI (Computer-Aided Instruction) (d) training using computer-based video; (e) open learning system, and (f) CMI (Computer-managed instruction). As a consequence, there will be changes in the school environment which include: teacher-centered learning comes to be student-centered one; content orientation turns to be goals orientation; group into individual basis; a rigid curriculum to be flexible one, and the instructional of teachers turns to be interactive.

2.3.3 Educator or Teacher

Several attempts were made to improve the competence of teachers to enable them to get a chance to grow. The following is the teacher's role and function that current teachers are expected to: (a) the teacher as a specialist knowledge, (b) as a practitioner of vocational teachers, (c) teacher as a program designer; (d) the teacher as a curriculum developer, (e) the teacher as a material source (f) the performance evaluator, (g) the teacher as a counselor; (h) the teacher as facilitator, and (i) the teacher as a manager.

2.3.4 Evaluation

Evaluation should be conducted by an independent body to see the mastery of competencies (certification bodies, BAN-PT, BNSP, industrial, and BSNP).

2.3.5 Cooperation with the world of work

Strong collaboration between education and industry for *on-the-job training* aimed at preparing a skilled workforce. *Trends of*

Collaboration in Industry-Education Institution (UNESCO, 1992) can be done through four stages: (1) academic learning, (2) Basic training, (3) special training (specialist), and (4) skills improvement. Steps 1-3 are implemented at schools; the implementation of stage 4 is in the industry, but at the end of the year students are contracted (treated) as an employee.

3. CONCLUSION

The development of vocational and technology education need to consider the relationship between several factors that are technocultural. These four factors are: industrial relationships; changes in technology (innovation); organization of work (work organization), and the formation of competencies (skills).

Vocational education (SMK) in Indonesia is an integral part of the economic sector which contributed to national economic growth, so that it needs to develop the quantity and the quality. SMK quality will reflect the quality of Indonesian labor that need to be set up to enhance the competitive excellence of human resources of Indonesia. Responding to the demand for general skills and higher level ones, it will be more effective to integrate the general and vocational education by giving the students enrichment of basic knowledge in vocational education to strengthen more and more the power of thought for the graduates of vocational education in Indonesia. For a description of the existing system we can prepare a discourse that is: *the implementation of vocational education, especially SMK, is carried out in eight semesters*. Four semesters are for the cultivation of basic knowledge and basic skills. Semester 5-6 is for their concentration, the implementation of UAS and UNAS. Then, semester 7-8 is for the enrichment of skills in the industry or field, and for On-the-Job Training (OJT), as well as the competency test.

In the application of the redesign implementation, it should be done by preparing graduates of vocational education in Indonesia through the development of curriculum, teaching-learning process, educators, evaluation, and cooperation the world of work, such as:

1. Curriculum development, namely retrainability. It focuses on the emphasized ability. It becomes necessary to adjust to the changes that often comes from the rapid growth of innovation from time to time. Providing broad-based education programs for career development should also not be overlooked.

2. Teaching and learning process, namely: a flexible curriculum and interactive instructional.
3. The teachers have to perform multiple roles and functions in the context that they are far from simple information distributor to become facilitators of learning.
4. Evaluation. Evaluation should be conducted by an independent body to see the mastery of competencies.
5. Cooperation in the world of work. This is realized in which there is strong collaboration between education and industry .

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